

**DUCT/FRAME ELEMENT ASSEMBLAGES AND METHODS OF
ASSEMBLING DUCTS AND FRAME ELEMENTS**

ABSTRACT OF THE DISCLOSURE

An HVAC duct is mounted within a pillar providing a frame element of a framing structure defining a passenger compartment of a vehicle such as a van, an SUV or a station wagon. The HVAC duct is stabilized within the pillar by a layer of structural foam or other cellular structure which is adhered to the interior surface of a wall of the pillar, for example, by heat expanded epoxy adhesive. In a method of assembling the HVAC duct and pillar, the duct is mounted on an interior wall portion of the pillar prior to enclosing the duct in the pillar by welding an exterior wall portion of the pillar to the interior wall portion of the pillar. Upon heating the pillar to bake the frame assembly after painting the frame assembly, the heat expandable epoxy expands and adheres to interior surfaces of the pillar walls. The resulting structure reduces structural intrusion into the passenger compartment by the duct and pillar assemblage, while increasing the cross-sectional area of the pillar. Alternatively, an expandable epoxy such as polyurethane foam is used, which expands between the duct and frame element walls.